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## CLAIMS:

1. A photovoltaic device, including a photovoltaic element including a plurality of layers<sup>of film</sup> and an envelope, at least a portion of the envelope having a curved profile; wherein the photovoltaic element is comprised of layers of film and is formed on the inside surface of the envelope
2. ~~A photovoltaic device in accordance with claim 1, wherein layers of the photovoltaic element are of differing chemical composition.~~
3. ~~A photovoltaic device in accordance with claim 1 or claim 2, wherein one or more layers of the photovoltaic element are formed within the envelope.~~
4. ~~A photovoltaic device in accordance with claim 1, claim 2 or claim 3, wherein one or more layers of the photovoltaic element are formed on the envelope.~~
5. A photovoltaic device in accordance with claim 1, ~~2, 3 or 4~~, wherein the envelope forms a dome containing the device.
6. ~~A photovoltaic device in accordance with claim 5, wherein the dome is substantially a hemisphere.~~
7. A photovoltaic device in accordance with claim ~~5~~<sup>2</sup> or ~~claim 6~~, wherein the dome is mounted on a substrate forming a base of the dome.
8. ~~A photovoltaic device in accordance with claim 1, 2 or 3, wherein the envelope substantially encapsulates the device.~~
9. A photovoltaic device in accordance with claim ~~8~~<sup>7</sup>, wherein the envelope is in the form of a sphere.

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~~10. A photovoltaic device in accordance with claim 8, wherein the envelope is in the form of a polyhedron.~~

~~11. A photovoltaic device in accordance with claim 10, wherein the photovoltaic element is formed on a face of the polyhedron.~~

5 ~~12.~~ A photovoltaic device in accordance with any one of the preceding claims, further including an electronic apparatus mounted within the envelope and being electronically connected  
10 to the photovoltaic element, the photovoltaic element being arranged to provide electric power to the electronic apparatus.

6 ~~13.~~ A photovoltaic device in accordance with claim <sup>5</sup>~~12~~, the electronic apparatus including a transmitter, ~~for transmitting signals to a remote location.~~  
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~~14. A photovoltaic device in accordance with claim 12, the electronic apparatus including a transmitter for transmitting signals to other photovoltaic devices.~~

20 ~~15.~~ A photovoltaic device in accordance with claim <sup>6</sup>~~13~~ or ~~claim 14~~ further including an antenna connected to the transmitter, the antenna being formed by a conductive region of the envelope.

25 ~~16. A photovoltaic device in accordance with claim 13 or claim 14 further including an antenna connected to the transmitter, the antennal being formed by a conductive layer adjacent the photovoltaic element.~~

30 <sup>8</sup>~~17.~~ A photovoltaic device in accordance with claim <sup>6</sup>~~12~~ or ~~claim 13~~, further including an antenna connected to the transmitter, the antenna including a conductive member extending outwardly from the envelope.

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*preceding claim*

18. A photovoltaic device in accordance with any ~~one of claims~~  
~~12 to 17~~, further including an energy storage device.

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19. A photovoltaic device in accordance with claim 18, the  
 5 energy storage device being in the form of a thin layers formed  
 proximate the layers of the photovoltaic element.

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*preceding claim*

20. A photovoltaic device in accordance with any ~~one of claims~~  
~~12 to 19~~, further including a sensor.

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21. A photovoltaic device in accordance with claim 20, the  
 sensor extending outwardly of the envelope.

~~22. A photovoltaic device in accordance with any one of claims~~  
 15 ~~12 to 21, in the form of an individual module.~~

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*any preceding*

23. A photovoltaic device in accordance with ~~claim 22~~, in the  
 form of a mote arranged to provide information about an  
 environment.

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24. A photovoltaic device in accordance with claim ~~23~~, the  
 device being enclosed in a resilient cover.

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*either*

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25. A photovoltaic device in accordance with ~~claim 23~~ or claim  
 25 ~~24~~, having an outer shape which is aerodynamic.

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*any one of 13, 14 or 15,*

26. A photovoltaic device in accordance with ~~claims 23, 24 or~~  
~~25~~, further including means for orienting the device.

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30 27. A photovoltaic device in accordance with claim 26, wherein  
 the orienting means includes a predetermined centre of gravity  
 of the device.

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28. A photovoltaic device in accordance with claim ~~26~~ or ~~claim~~  
~~27~~, wherein the orienting means includes a projection projecting  
 outwardly of the device.

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5 29. A photovoltaic device in accordance with claims ~~26~~, ~~27~~ or  
 28, the orienting means including an adhesive portion on an  
 outer surface of the device.

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10 30. A photovoltaic device in accordance with any one of claims  
 1 to ~~29~~, the device being mounted on a substrate and being  
 electrically connected to the substrate.

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15 31. A photovoltaic device in accordance with claim ~~30~~,  
 including a channel through the envelope to a conductive layer  
 of the device and a conductor connecting the conductive layer to  
 the substrate.

32. A photovoltaic device in accordance with claim 31, wherein  
 the channel is lined with conductive material.

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33. A photovoltaic device in accordance with <sup>either of</sup> claim ~~29~~, ~~30~~ or ~~31~~  
 wherein the substrate includes a grid of conductors and the  
 photovoltaic device is electrically connected to the grid.

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34. A photovoltaic device in accordance with any one of claims  
~~30 to 33~~ <sup>70 to 72</sup>, wherein the substrate includes a depression, and the  
 photovoltaic device is mounted within the depression.

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35. A photovoltaic device in accordance with any one of claims  
~~30 to 34~~ <sup>70 to 72</sup>, the substrate including reflective means to reflect  
 radiation incident on the substrate towards the device.

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36. A photovoltaic device in accordance with any one of the preceding claims, wherein the photovoltaic element is a thin film photovoltaic element.

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5 37. A photovoltaic device in accordance with claim 36, wherein the ~~line~~<sup>thin</sup> film photovoltaic element is a Dye Solar Cell (DSC) element.

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10 38. A photovoltaic device in accordance with claim 37, wherein an internal electrode of the DSC element comprises carbon.

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39. A photovoltaic device in accordance with claim 37 wherein the device stores a reservoir of electrolyte to provide an electrolyte supply to an electrolyte layer of the DSC device.

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40. A photovoltaic device in accordance with any one of the preceding claims, a resilient material being provided within the device to secure elements of the device and provide mechanical rigidity.

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41. A mote arranged to provide information about an environment, the mote including a photovoltaic element and an electronic apparatus confined by an envelope, the photovoltaic element or the photovoltaic element being arranged to provide electric power to the device.

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42. A mote in accordance with claim 41, the photovoltaic element including a plurality of layers.

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43. A mote in accordance with claim 42, the photovoltaic element being a Dye Solar Cell element.

44. A mote in accordance with claim 41, 42 or 43, being arranged to operate with a plurality of like motes.

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45. A photovoltaic array, including a plurality of photovoltaic devices in accordance with any one of claims 30 to 35, mounted on the substrate.

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46. A method of manufacturing a photovoltaic device including the steps of forming a photovoltaic element from a plurality of layers of differing chemical composition on conducting core, and forming an envelope with at least a portion of the envelope  
10 having a curved profile.

47. A method of manufacturing a photovoltaic device including the following steps:

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- Providing an envelope, at least a portion of the envelope having a curved profile, and
- Forming a photovoltaic element from a plurality of layers of differing chemical composition; the layers being formed on at least part of the surface of the  
20 envelope

48. A method of manufacturing a photovoltaic device in accordance with claim 47, further including steps of placing inside the envelope at least the following components:

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- a transmitter,
- a sensor,
- an energy storage device;

Electrically connecting these components and forming an antenna on or adjacent to the surface of the envelope, the antenna being  
30 electrically connected with the transmitter.

49. A method of manufacturing a photovoltaic device in accordance with claim 48, further including enclosing the envelope into resilient transparent cover.

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50. A photovoltaic device substantially as herein described with reference to the accompanying drawings.

5 ~~51. A mote, substantially as herein described, with reference to the accompanying drawings.~~

~~52. A photovoltaic array, substantially as herein described with reference to the accompanying drawings.~~

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